REMARKS/ARGUMENTS

In Section 2 of the Office Action mailed on November 18, 2004, the Examiner objected to the drawings. A substitute set of formal drawings in compliance with MPEP 608.02(g) and 37 C.F.R.§ 1.121(d) with a transmittal letter is submitted herewith.

In section 4 of the Office action, the Examiner objected to the disclosure as containing an embedded hyperlink. By the amendment to the specification above the reference to the hyperlink is deleted.

In sections 5 to 7, the Examiner objected to claim 10, 20, 21, 48, and 51 for different informalities. Applicants thank the Examiner for his comments and the appropriate amendments have been made as suggested by the Examiner.

In sections 10 to 14, the Examiner rejected Clams 15-16, 27, 33, 34 and 41 under 35 U.S.C. 112. Applicants thank the Examiner for his comments and by this response respectfully submit the following amendments which are believed to be sufficient to overcome the above rejections. In making these revisions care has been taken to ensure that no new matter has been added.

1. Claim 15 has been amended in accordance with the Examiner's proposal, thereby also overcoming the rejection of Claim 16.
2. Claim 27 has been amended to be dependent on Claim 26, thereby providing adequate antecedent basis for the use of term "said testing" in Claim 27.
3. Claim 31 has been amended to recite the term "existential charts" (using language taken from Claim 32), and therefore it provides adequate antecedent basis for the use of term "the existential charts" in Claim 33 (dependent upon Claim 31).
4. Claim 22 has been amended to recite the term LSC, thereby providing adequate antecedent basis for the use of term "said LSC" in Claim 34.
5. Claim 41 has been amended in accordance with the Examiner's suggestion.

Examiner rejected Clams 1-9, 12, 14-16, 18-21, 24, 26, 28, 30-33 and 35-51 under 35 U.S.C. 102(e) as anticipated by U.S. 6,205,575 to Sherman ('575). Applicants amended

independent Claims 1, 19 and 39 to clarify the subject matter of the application. In making these revisions care has been taken to ensure that no new matter has been added.

Applicants appreciate the time and consideration provided by the Examiner in reviewing this application, however, respectfully traverse the rejections of the claims at least for the following reasons.

Rejection under 35 U.S.C.§102(b)

Anticipation under 35 U.S.C. §102 requires that each and every claimed feature be disclosed by a single prior art reference

In order to provide a better understanding of the subject matter of the present application, Applicants present herewith a brief overview of the underlying concept in accordance with certain embodiments as described in the application. The Object oriented modeling (OOAD – Object Oriented Analysis and Design) started to show up in the late 1980's and has been used to "lift" concepts from the programming language. Referring to the system behavior, there are known in the art two aspects that have to be modeled, the intra-object behavior, which describes the way each one of the instances behaves, and the inter-object behavior, which describes the interaction between the objects in different possible scenarios of the system.

Statecharts language and *message sequence charts (MSCs)* are known tools to describe system behavior (page 1, lines 1-5 of "Background of the invention" section of the present application). *Use cases* were introduced in order to describe the system by identifying the different observable behaviors and interactions of the system with the user (page 1, line 23 to page 2, line 2 of "Background of the invention" section of the present application). A more advanced extensive expansion of the system behavior specification language of MSCs is live sequence charts (LSCs). (page 2, line 30 to page 3 of the present application).

These known solutions do not allow a fully automated procedure as shown in Fig. 1 and page 4, lines 7 to 10 of the application, illustrating the manual and tedious effort requiring to "translate" from use cases representation to system requirement level (say in LSC form).

Accordingly, let's consider a typical application such as designing Rapid Prototype

and/or Simulation Tools. The use of Prototypes/simulation tool is normally required before building a new system. For designing the system behavior of the prototype, it would be highly desired to define the prototype system behavior in a convenient manner. In the context of prior art solutions this is not achievable since the system designer is compelled to go through the cumbersome and tedious procedure using the known *per se* formal system behavior languages, all as discussed above with reference to the prior art. It readily arises that in accordance with the teachings of the prior art, the system designer cannot define system behavior by interacting intuitively with the system prototype's GUI. More specifically, the user is required to design manually in high level, say using "use cases" describing system behavior (in high level representation) and reduce manually through tedious manual work the high level representation into more formal system behavior representation (such as the LSC). Not only the designer is compelled to lengthy and tedious manual work, but also he must have fairly good knowledge of the formal system behavior language.

The present application, in accordance with certain embodiments thereof, clears this gap by allowing the designer to define a system graphic user interface (GUI) having at least a part which represent the real-world GUI of the designed system (see element (i) of Claim 1 as amended). A non limiting example of such GUI is a calculator, which includes representation of real-world calculator's user interface, described with reference to Figs. 4 to 24 including GUI objects, such as keys, etc. (see e.g. page 7, lines 30 to 32). The user "plays in" intuitively scenarios of interest by using objects of the GUI (which resembles the real-world interface of the system of interest), and gets system feedback by specifying the system reaction in response to using the system objects (amended element (ii) of Claim 1). The usage of the objects and system reaction (such as keys in the calculator and the resulted display) is exemplified in detail in the calculator example of Figs. 4 to 24. The system then substantially *automatically* constructs the formal system behavior specification, (elements (iii) of amended Claim 1), exempting the user from having high level of expertise in the formal system behavior language.

The *automatic* construction of LSC charts (as recited in amended element (iii) of Claim 1) is illustrated for instance in the LSC charts of Figs. 4 to 24 (see also page 9, lines 7 to 9).

Note that in accordance with certain embodiments, the GUI may include additional objects such as internal components, etc.

The advantage discussed above (in accordance with certain embodiments of the invention) is referred to also in page 17, lines 8 to 17.

In contrast, Sherman in '575 discloses a system for facilitating definition, maintenance and presentation of scenarios. The system of Sherman facilitates selection of elements from system description in accordance with pre-defined syntax (Abstract, Col. 6 lines 45-50). The system description of Sherman is defined in "low-level manner" requiring fairly extensive knowledge of the user in the system description syntax. As readily arises from Col. 3, lines 6-28, 38-47 and Col. 7, lines 50-62, Sherman refers to the Flow diagrams. As is well known, Flow diagram is a shortcut for Data flow diagram (Bubbles representing the activities, objects and flow in a system, etc.). This is a design model that falls under the category of low level representation requiring high level of expertise from the system designer's end.

Note incidentally that to the extent that Sherman refers to "use cases" indicating higher level representation of the system (see, e.g. Col 5. lines 18-23), Sherman refers to the "use cases" in a conventional and known *per se* manner. Thus, Sherman refers to the known publications in Col. 5, lines 23-28 and does not suggest any "automatic" manner for translating from the use case representation into the "low level" formal system behavior specification and accordingly the "translation", if any, from the high level use case representation to the low level. The formal system behavior specification is done through manual and tedious procedure, all as discussed above.

It goes without saying that Sherman does not anticipate even remotely (amongst the other) the use of system GUI for the purpose of defining system behavior as disclosed and claimed in the present application, and obviously the teachings of Sherman do not bring about the advantages of using the system GUI as described above.

In other words, the teachings of Sherman share common shortcomings with the prior art solutions discussed in the Background section of the specification, which, amongst the other, do not allow interaction through GUI that at least partially represent a real-world system GUI and similar to the known prior art requires rather extensive knowledge of the formal system behavior representation (in the case of Sherman, through data flow diagrams).

In this respect Sherman teaches away from the claimed invention.

Applicants therefore respectively requests withdrawal of the rejection of Claim 1 under 102(e).

Claims 2-9, 11-16, 18, 37-38, 40, 43, 46, 49 directly or indirectly depend upon Claim 1, and should be deemed novel and non obvious over the cited prior art reference, *inter alia for the reasons* discussed with reference to Claim 1, above.

Amended Claim 19, directed to apparatus, should be deemed novel and non obvious over the cited Sherman, *inter alia* for the reasons discussed with reference to Claim 1, above.

Reverting now to the present application, in accordance with one of the aspects of the invention, there is provided a playing out scenario (or scenarios) using system GUI and system behavior specification. At least part of the results of the operation of play-out is reflected in the system GUI. The play-out (as distinguished from the play-in) is described in detail with reference to the non-limiting examples in page 33, line 10 to page 34, line 10, and is further exemplified with reference to a non-limiting example with reference to Fig. 25. As arises from the description, the playing out includes executing scenarios.

With respect to the dependent claim 14 that recites "play out", not only it is deemed novel and non obvious over the teachings of Sherman (for the reasons discussed above), but it is additionally distinguished from Sherman in that the latter does not disclose even remotely the play out. The examiner referred to Col. 5: lines 17-27, however, the latter merely suggests that Sherman refers to "use cases" in a conventional manner (see Col. 5, lines 23 -28, where reference is made to conventional use cases publication). The Examiner further referred to Col. 14, lines 25 to 28 of Sherman. According to the teaching of this section, scenarios can be animated. Note, incidentally, that this feature is already known from other prior art publications, e.g. there are tools that can show scenarios as diagrams (e.g., various MSC

editors). However, in contrast to the teachings of the prior art, the play out as recited in amended Claim 14, includes (amongst the other) executing the scenario(s) and reflecting in the system GUI at least part of the result of the operation of the played out scenario(s) which is well distinguished from mere animation.

It is accordingly submitted that Sherman does not teach or suggest the *play out* element recited in Claim 14.

Before turning to discus the Examiner's rejection of independent Claim 20, it is noted that amended Claim 20 includes the limitation of Claim 21. On the merits, the Examiner' substantiated the rejection of Claim 20 on the reasons elaborated with reference to Claim 1, notwithstanding the fact that Claim 1 recited *play in*, which is well distinguished from the *play out* recited in Claim 20. As discussed above (with reference to Claim 1) the teachings of Sherman do not anticipate even remotely the play-in procedure and *a fortiori* they do not anticipate even remotely the play-out procedure.

Applicants therefore respectively request withdrawal of the rejection of Claim 20 under 102(e).

Amended independent Claim 39, directed to apparatus, should be deemed novel and non obvious over the cited Sherman, *inter alia,* for the reasons discussed with reference to Claim 20, above.

Claims 23-28, 30-33, 35-36, 41,42, 44, 45, 47, 48, 50 and 51 directly or indirectly depend upon Claim 20 (or 39) , and should be deemed novel and non obvious over the cited prior art for the reasons discussed above with reference to Claim 1.

Rejection under 35 U.S.C.§103(a)

Claims 10, 17, 22, 29 and 34 rejected under 35 U.S.C. 103(a) as unpatentable over Sherman (USPN 6,205,575) in view of Werner Dam and David Harel, and Claims 11, 13, 23, 25 and 27 over Sherman in view of Ladkin.

Since all rejections under 35 U.S.C. 103(a) are based primarily on Sherman, the arguments presented above are also applicable to the 103 rejection. As stated in MPEP ' 2142, in order to establish a prima facie case of obviousness, the references must teach or

suggest all the claimed limitations. Applicants maintain that dependent Claims 10, 11, 13, 17, 22, 23, 25, 27, 29 and 34 should be deemed novel and non obvious over the cited references, *inter alia*, for the reasons discussed with reference to their respective independent base Claims 1 and 20.

Therefore, the cited prior art references, alone and in combination, clearly teach away from the present application.

Applicants respectfully submit that all the pending claims as originally presented and amended by this response are allowable, and the application is now in condition for allowance, which allowance is earnestly solicited.

The Commissioner is hereby authorized to charge any fees, which may be required in connection with this correspondence, to Deposit Account No. 06-1135.

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY

By: 
Kenneth H. Samples
Registration No. 25,747

Date: 2/17 2005

120 South LaSalle Street, Suite 1600
Chicago, IL 60603-3406
Telephone: (312) 577-7000
Facsimile: (312) 577-7007